United States
Department of
Agriculture
Forest Service

# FOREST PEST MANAGEMENT

## Technology Update
Southern Region, USDA Fores t Service1720 Peachtr ee Rd, N. W., Atl anta,Ga. 30367

Southern Pine Beetle Fact Sheet
Number 27

## A RESEARCH UPDATE: FERRET — THE QUESTION ANALYSIS ROUTINE FOR THE SOUTHERN PINE BEETLE DECISION SUPPORT SYSTEM

The Expanded Southern Pine Beetle Research and Applications Program (ESPBRAP) and the Integrated Pest Management (IPM) for Bark Beetles of Southern Pines Program produced a series of computerbased, mathematical models. These models abstracted research findings in the areas of beetle population dynamics, stand growth and yield, stand hazard rating, utilization of beetle-killed timber, and economic impact evaluation.

Since few of the models were developed in an applicationsoriented format, however, access to this and other technology has been limited. FERRET — an operational computerbased decision support system for southern pine beetle management — was developed to give users easy access to new or existing technology.

FERRET'S question analysis works as follows: The question is typed into the computer and displayed. The program then offers a series of menus relative to that question. Users are asked to indicate the category in which the question falls. The process is repeated until the program has enough information about the questions to identify the technology (ies) that are available to solve the problem.

The program then offers users the opportunity to look at a narrative description that could be useful in answering the question. The narrative might include a description of the technology and its purpose, limitations, qualifications on usage, and where and how it can be accessed.

For computer models, users can also ask for input and output listings, which allow them to assess the model data requirements. A review of these listings allows users to decide if model technology is available and how to access and use the technology. Users can also be directed to non-model sources of information, such as publications or individual specialists.

If users know which model is needed to answer the question, the program has a subroutine for circumventing the question analysis routine. Then the program goes directly to a technology listing and provides users with the option of seeing narrative descriptions or input and/or output displays. Models currently available from FERRET include:

### Hazard Rating Models

1. AHAZARD -- Arkansas hazard rating system.

2. PHAZARD -- Piedmont hazard rating system.

3. THAZARD -- east Texas hazard rating system.

### Economic or Impact Evaluation Models

4. SPBEEP -- SPB economic evaluation.

5. TBAP -- timber benefits analysis program.

6. ITEMS -- southern timber economics management system.

7. FRONSIM -- SPB damage simulator.

8. DAMBUGS -- SPB damage simulator.

### Stand Growth and Yield Models

9. TRAS -- timber resource analysis system.

10. USLYCOWG -- yield model for unthinned slash and loblolly pines in the west Gulf region.

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